

## CLAIMS

1. A projection display apparatus for expanding and projecting an image, which is formed by an optical modulator, using a projection lens comprising:
- 5        a light source for illuminating the optical modulator;
- a first lens array for dividing light emitted from the light source into a plurality of partial luminous flux;
- a second lens array for superimposing the plurality of partial luminous fluxes emitted from the first lens array onto the optical modulator; and
- 10        a diaphragm mechanism, which is disposed between the light source and the optical modulator, for controlling an amount of light from the light source, wherein a traveling direction of the light emitted from the light source is defined as a Z-axis, a direction perpendicular to the Z-axis is defined as an X-axis, and a direction perpendicular to a plane formed by the Z-axis and the
- 15        X-axis is defined as a Y-axis,
- wherein an area of an opening of the diaphragm mechanism changes in a direction of the X-axis or the Y-axis.
2. The projection display apparatus of claim 1,
- 20        wherein the diaphragm mechanism for controlling the amount of light is disposed between the first lens array and the second lens array.
3. The projection display apparatus of claim 1,
- wherein the image formed by the optical modulator has a rectangular
- 25        shape, and a short side direction of the rectangular shape of the image corresponds to the Y-axis,
- wherein the area of the opening of the diaphragm mechanism changes in

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a direction of the Y-axis.

4. The projection display apparatus of claim 1,  
wherein a center of the opening is located at a same position while a  
5 diaphragm value changes.

5. The projection display apparatus of claim 4,  
wherein the opening has a point symmetric shape with respect to the  
center of the opening.

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6. The projection display apparatus of claim 1,  
wherein the diaphragm mechanism has a diaphragm blade or a pair of  
diaphragm blades both of which are positioned in the Y-axis direction with an  
interval,  
15 wherein respective areas of respective plural lenses included in the first  
lens array or the second lens array, which are light-shielded by the opening side  
portion of the diaphragm blade or each of the pair of diaphragm blades, include  
different areas.

20 7. The projection display apparatus of claim 6,  
wherein the diaphragm blade or the each of the pair of diaphragm blades  
rotates about an end of a side thereof.

8. The projection display apparatus of claim 6,  
25 wherein the diaphragm blade or each of the pair of diaphragm blades is  
made of material having high reflectivity.

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9. The projection display apparatus of claim 6 further comprising:  
a detector for detecting brightness of an image to be projected; and  
a driving section for driving the diaphragm blade or each of the pair of  
diaphragm blades,

5        wherein the diaphragm blade or each of the pair of diaphragm blades is  
driven based on the detected brightness of the projected image in such a  
manner that a position of the diaphragm blade or a position of each of the pair  
of diaphragm blades is determined.

10       10. The projection display apparatus of claim 9,  
wherein a voice coil motor is used as the driving section.